

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A document processing apparatus comprising:

a determination unit that determines at least some of a plurality of colors of an area contained in input document data as a determined color group, wherein the determination unit determines whether the area has a predetermined reference area or larger based on a histogram of the colors; group;

a retrieval unit that determines an association between the colors in the determined color group based on one or more criteria, determines a set of the colors contained in the determined color group as a confusion color set based on the association and confusion color information defined in connection with color blindness of a human being in a predetermined color component space; calculates an angle between (i) a line, in a given color component space, connecting a given point, which is defined in connection with color blindness of a human being, and one of the colors of the determined color group and (ii) a line, in the given color component space, connecting the given point and each of the other colors of the determined color group, and determines as to whether or not each calculated angle is less than a given threshold value, wherein if the retrieval unit determines that one calculated angle is less than the given threshold value, the retrieval unit determines said one of the colors and said other of the colors, which corresponds to the one calculated angle, as a confusion color set; and

a processor that performs a predetermined given process for portions portions, of each having any of the colors contained in the confusion color set determined by the retrieval unit-unit, in the input document data.

2. (Canceled)

3. (Currently Amended) ~~The A~~ document processing apparatus according to claim 1, wherein the comprising:

a determination unit that determines at least some of a plurality of colors contained in input document data as a determined color group;

a retrieval unit that defines a nearby confusion area in a given color component space, for each of the colors contained in the determined color group, provided-based on at least one of color vision characteristics of a human being or-and characteristics of an output medium in the predetermined color component space for each of the colors in the determined color group; medium, wherein

a confusion color locus group is defined so that each of confusion color loci of the confusion color locus group contains colors that are confused by a person having color blindness, and

when one attention confusion color locus included in the confusion color locus group passes through insides of some of the nearby confusion areas, and the retrieval unit determines the plurality of colors contained in the some of the nearby confusion area as the a confusion color set set when one attention confusion color locus in a confusion color locus group defined so as to contain confusion colors in color blindness in the color component space passes through an inside of the defined nearby confusion area.

4. (Currently Amended) ~~The A~~ document processing apparatus according to claim 1, wherein the comprising:

a determination unit that determines at least some of a plurality of colors contained in input document data as a determined color group;

a retrieval unit that defines a nearby confusion area in a given color component space, for each of the colors contained in the determined color group, provided-based on at least one of color vision characteristics of a human being or-and characteristics of an output medium in

~~the predetermined color component space for each of the colors in the determined color group; and~~ medium, wherein

a confusion color locus group is defined so that each of confusion color loci of the confusion color locus group contains colors that are confused by a person having color blindness, and

when one attention confusion color locus included in the confusion color locus group passes through insides of some of the nearby confusion areas, the retrieval unit determines a plurality of colors, which are contained in the some of the contained in the nearby confusion area and colors in a predetermined area, a color in a proximity of an attention confusion color locus, as the a confusion color set when one attention confusion color locus in a confusion color locus group defined so as to contain confusion colors in color blindness in the color component space passes through an inside of the defined nearby confusion area, set; and

a processor that performs a predetermined process for portions of the colors contained in the confusion color set determined by the retrieval unit in the input document data.

5. (Currently Amended) The A document processing apparatus according to claim 1, wherein the comprising:

a determination unit that determines at least some of a plurality of colors contained in input document data as a determined color group;

a retrieval unit determines which unit, wherein

blocks are previously defined in the predetermined a given color component space for space,

the retrieval unit determines which block each of the colors contained in the determined color group belongs to; to, and

the retrieval unit determines ~~the confusion color set~~some of the colors contained in the determined color group ~~as confusion color set based on block-to-block block~~ confusion color information associating blocks confused with each other ~~in~~under color blindness ~~in connection with color blindness~~ of a human being and information ~~of indicating~~ ~~a~~the block to which each of the colors contained in the determined color group ~~belongs~~belongs; and

a processor that performs a predetermined process for portions of the colors contained in the confusion color set determined by the retrieval unit in the input document data.

6. (Currently Amended) The document processing apparatus according to claim 1, wherein

the ~~predetermined given~~ color component space contains a lightness component of each of the colors in the determined color group; and

the retrieval unit removes an attention color from the confusion color set when the attention color contained in the confusion color set and other one or more colors contained in the confusion color set differ in lightness on color vision characteristics of a human being.

7. (Currently Amended) The document processing apparatus according to claim 1, wherein

the ~~predetermined given~~ color component space contains a lightness component of each of the colors in the determined color group; and

the retrieval unit does not determine whether or not colors of the confusion color set differ in lightness on color vision characteristics of a human being are confused with each other.

8. (Currently Amended) A document processing method using a computer to process color contained in a document, comprising:

determining at least some of a plurality of colors of an area contained in input document data as a determined color group;

~~determining whether the area has a predetermined reference area or larger based on a histogram of the colors;~~

~~determining an association between the colors in the determined color group based on one or more criteria;~~

~~determining a set of the colors in the determined color group as a confusion color set based on the association and confusion color information defined in connection with color blindness of a human being in a predetermined color component space; and~~

calculating an angle between (i) a line, in a given color component space, connecting a given point, which is defined in connection with color blindness of a human being, and one of the colors of the determined color group, and (ii) a line, in the given color component space, connecting the given point and each of the other colors of the determined color group;

determining whether each calculated angle is less than a given threshold value, wherein if one calculated angle is less than the given threshold value, determining said one of the colors and said other of the colors, which corresponds to the one calculated angle, as a confusion color set; and

performing a predetermined given process for portions of portions, each having any of the colors in the confusion color set in the input document data.

9. (New) The document processing apparatus according to claim 1, wherein the determination unit determines as to whether or not each area filled with any of the plurality of colors contained in the input document data has a given reference area based on a histogram of the colors.